

(No Model.)

3 Sheets—Sheet 1.

F. C. BURNETT.  
CATTLE GUARD FOR RAILWAYS.

No. 594,148.

Patented Nov. 23, 1897.

Fig. 1.

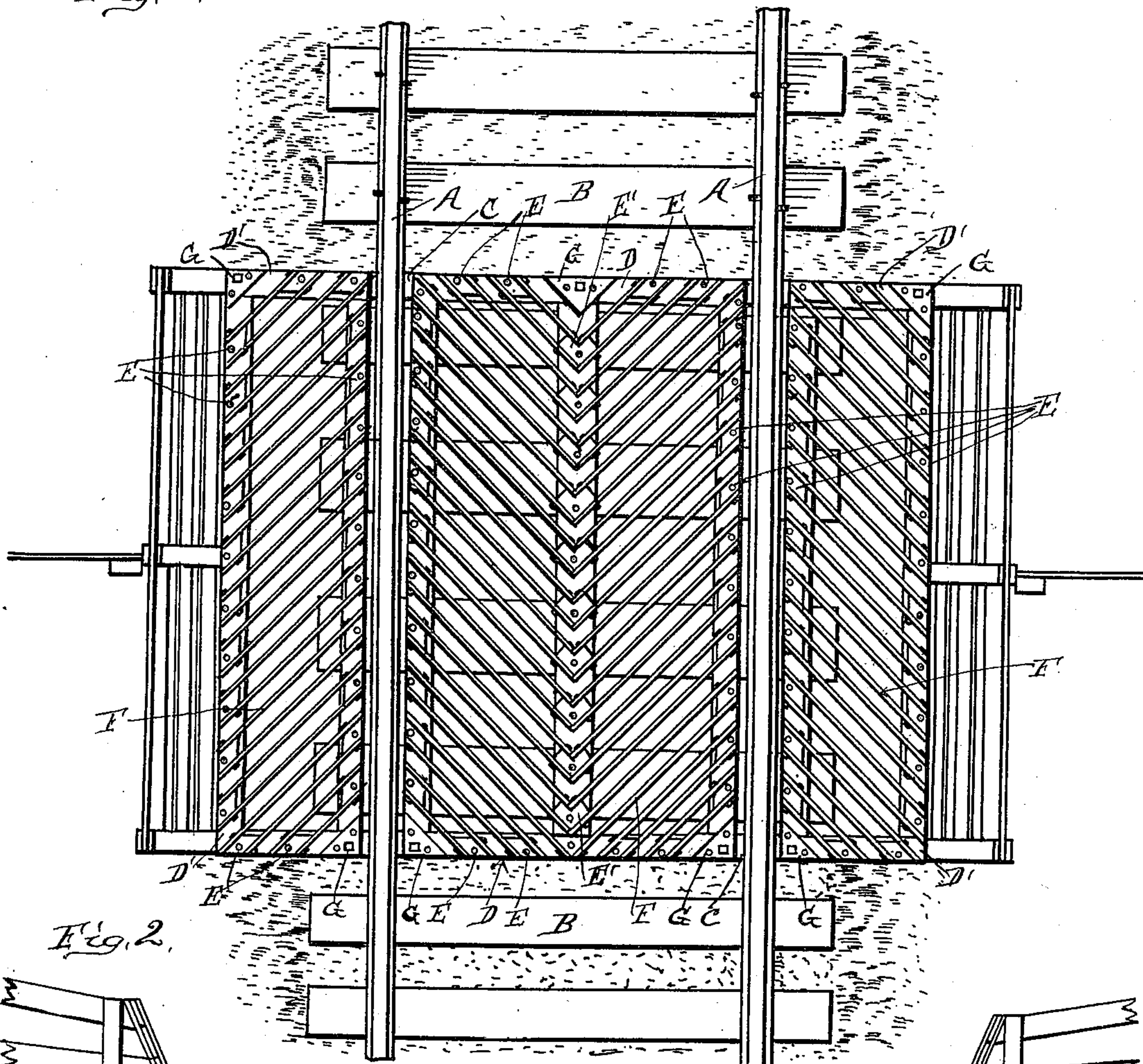
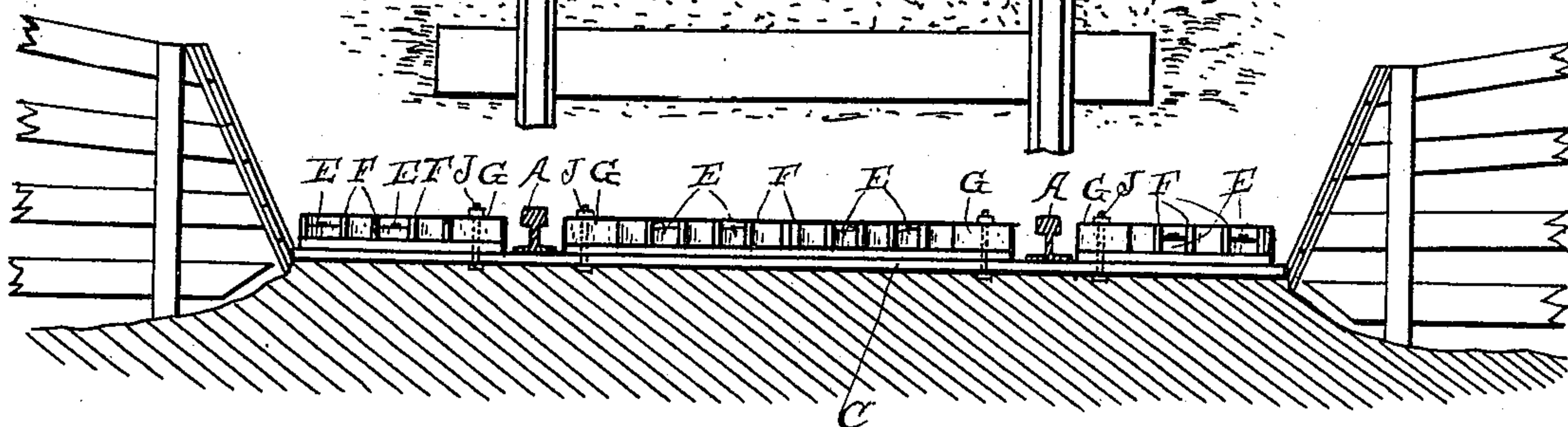


Fig. 2.



Witnesses  
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(No Model.)

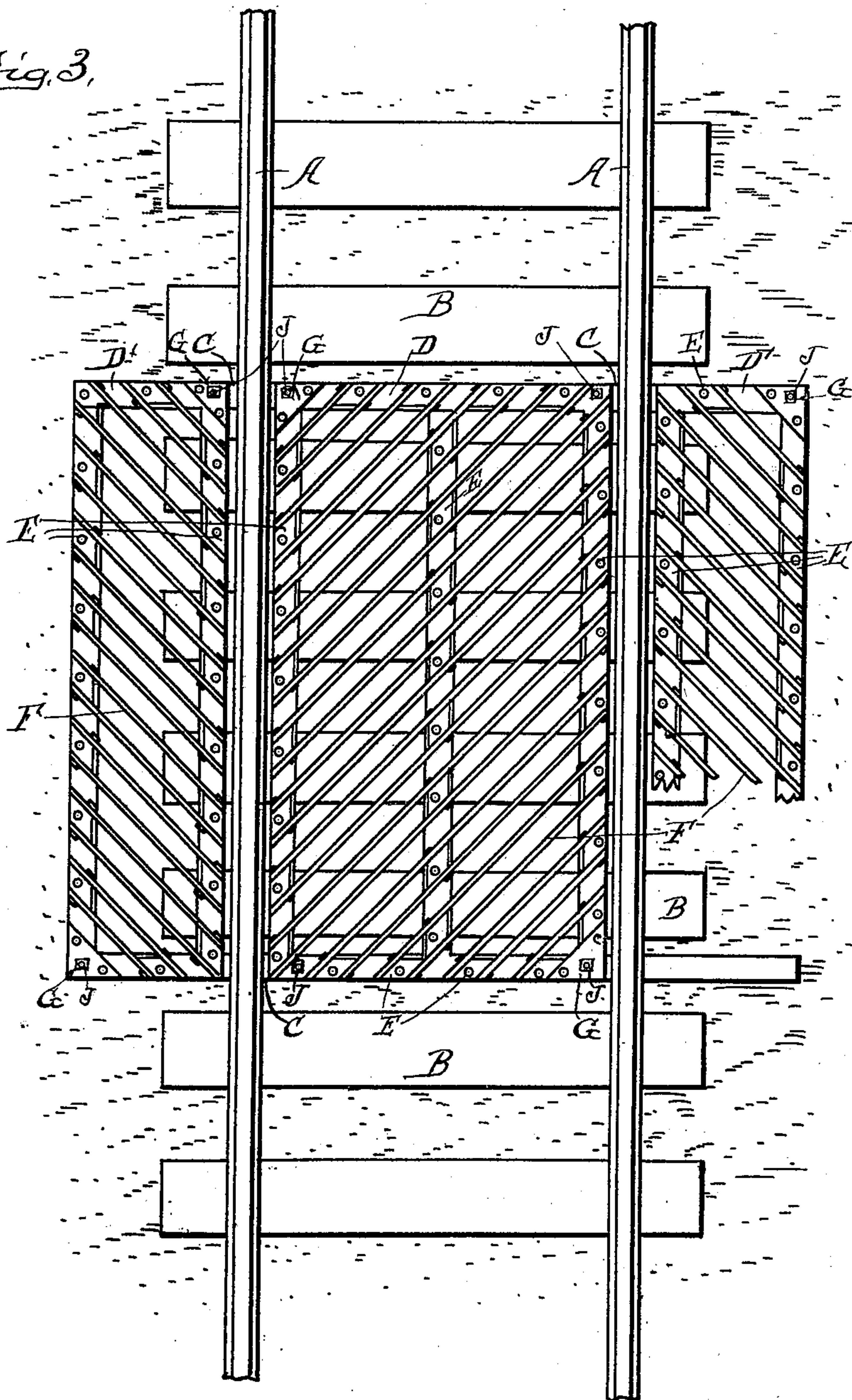
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Fig. 3.



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Fig. 4.

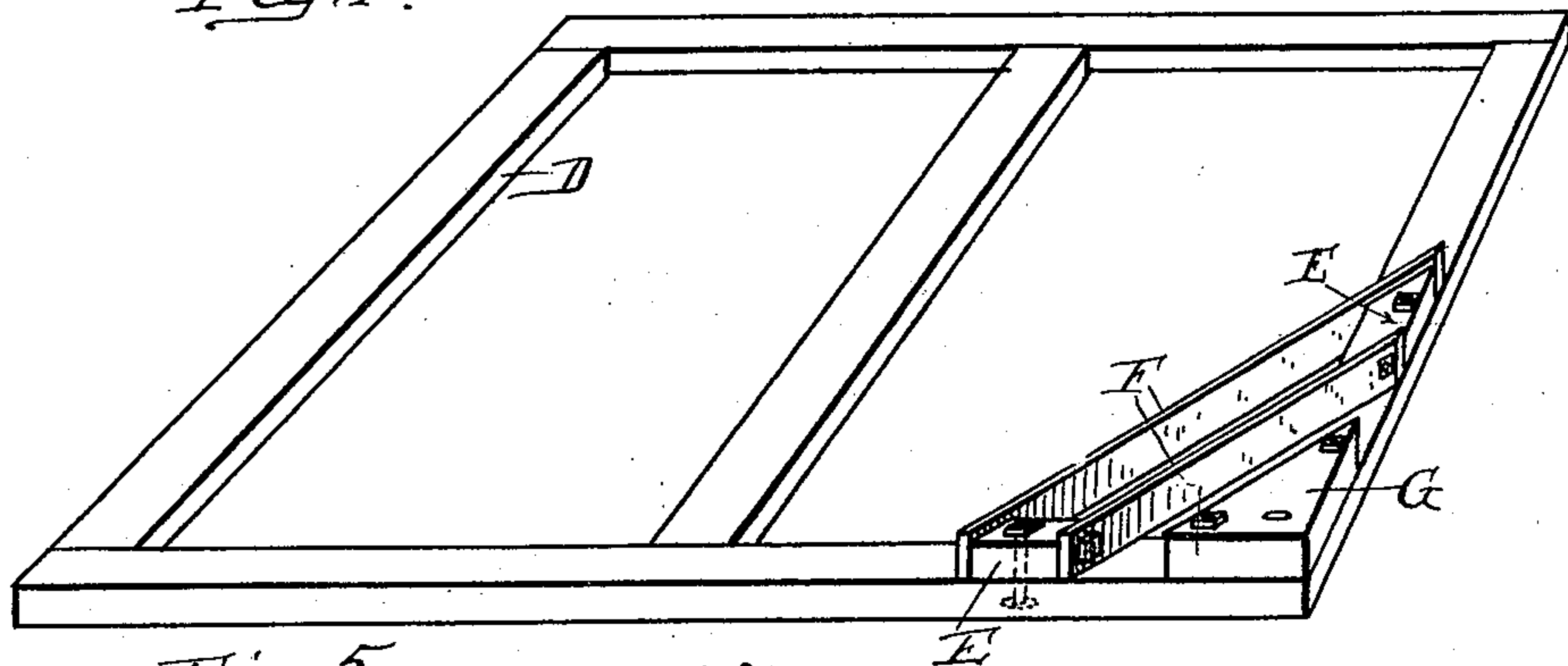


Fig. 5.

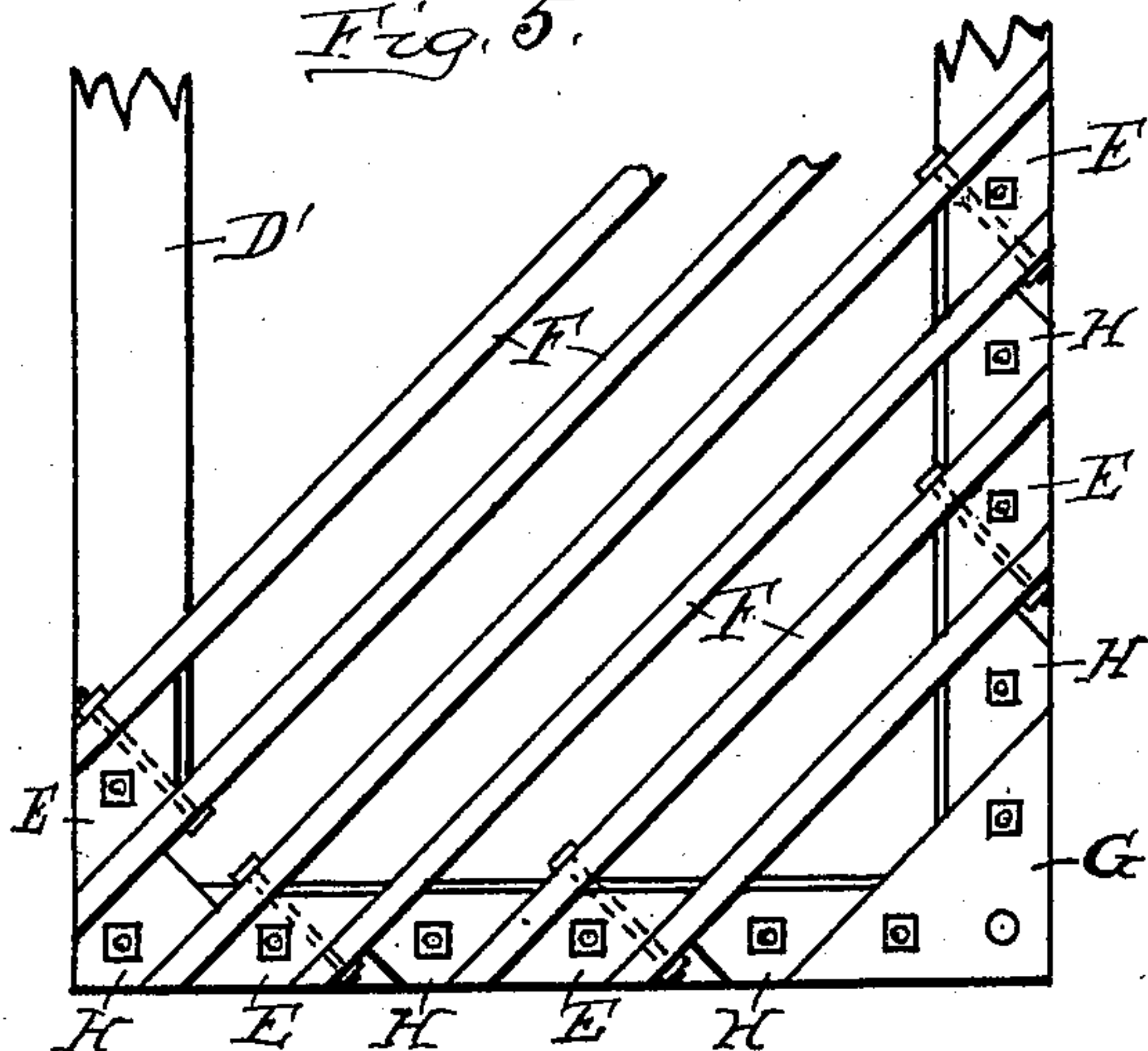


Fig. 6.

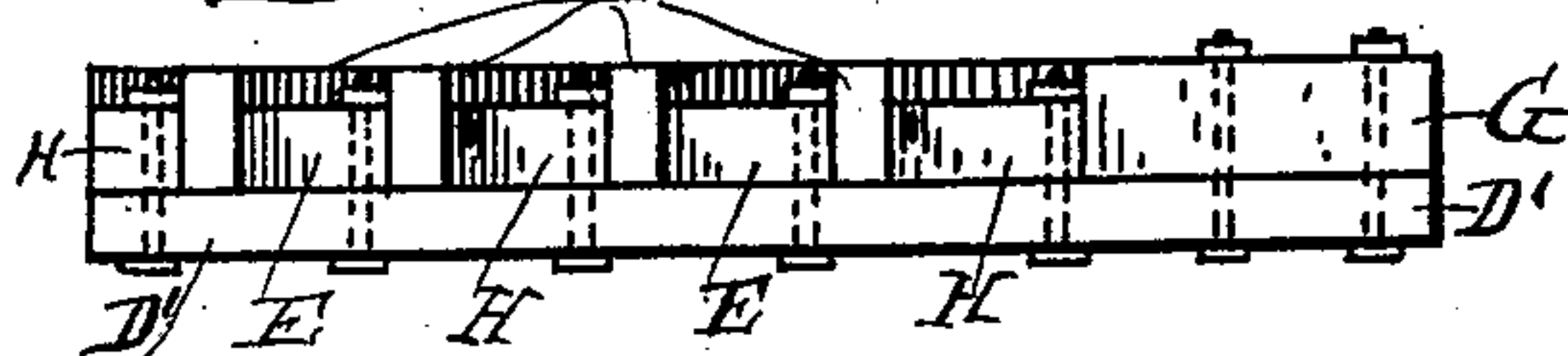


Fig. 7.

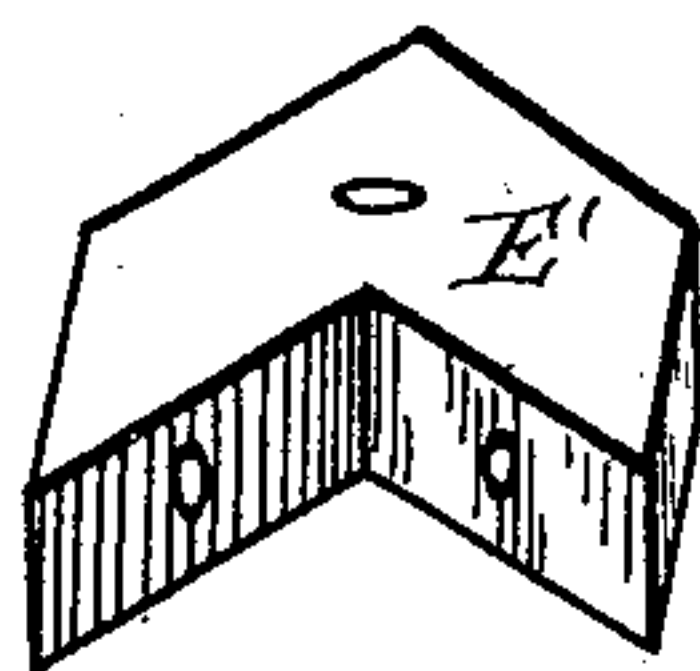


Fig. 8.

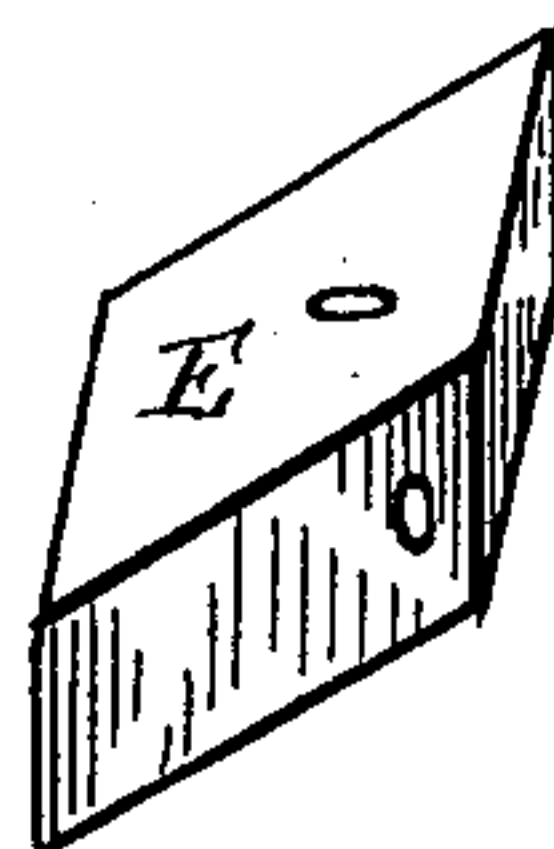


Fig. 9.



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# UNITED STATES PATENT OFFICE.

FRANK C. BURNETT, OF JOLIET, ILLINOIS.

## CATTLE-GUARD FOR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 594,148, dated November 23, 1897.

Application filed August 28, 1896. Serial No. 604,148. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK C. BURNETT, a citizen of the United States of America, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Cattle-Guards for Railways, of which the following is a specification, reference being had therein to the accompanying drawings, and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 is a plan of the cattle-guard as it would appear in service; Fig. 2, an end elevation of the same and a sectional elevation of the railway-track and road-bed; Fig. 3, a plan of the cattle-guard, showing a modified arrangement of the slats thereof; Fig. 4, a detailed perspective of the center guard-frame and of a portion of the guard-slats attached thereto; Fig. 5, a plan of one end portion of one of the side guards; Fig. 6, an end elevation of the same; Figs. 7 and 8, detailed perspectives of the slat spreading and securing blocks of the guard, and Fig. 9 a similar view of one of the guard-slats.

This invention relates to certain improvements in cattle-guards for railway constructions; and it consists of frames constructed and adapted to be removably placed at crossings along a railway-track, between, and relatively at the sides of, the rails of the track, of obliquely-arranged slats detachably attached to said frames, and of frame-securing sills adapted to be placed crosswise of the track and immediately under the rails thereof, which improvements are fully set forth and explained in the following specification, and pointed out in the claims.

The object of this invention is to provide a cheap, effectual, portable cattle-guard, one adapted to be easily and quickly cleaned or repaired, and adapted to be placed at any crossing of a railway-track independent of the track-ties without the removal of the ties and without previous preparatory construction of the track-bed; and a further object is to provide a guard with slats thereof so arranged as to render it difficult for the passage of animals and convenient for the passage of man.

Referring to the accompanying drawings, A A represent the railway-rails, and B the

cross-ties to which the rails are attached in the usual manner.

C represents the cross-sills of the guard, these being two or more in number and of wood, which are placed in the road-bed between cross-ties and immediately under the rails in such manner as to be a distance apart equal to the length of the guard-frames and so as to project at each side of the railway-track sufficiently to provide a support for the side sections of the guard.

D represents the center guard-frame, which is made of wooden rails suitably framed together and is rectangular in form, comprising in its construction two end rails, two side rails, and one center longitudinal rail, as shown more particularly in Fig. 4, thus forming what I term a "double" frame, and D' represents the side guard-frames of like material and length as frame D, but of less width and devoid of a center rail, thus forming what I term the "single" frames.

Attached by means of bolts to the upper side of the rails of the guard-frames are a series of angular wooden blocks E, arranged at regular intervals, and bolted to the sides of said blocks are a series of wooden guard-slats F, arranged edgewise obliquely to the frame-rails and also to the railway-track rails and at regular equidistant intervals, as represented, and of sufficient number to cover the entire surface of frames D and D', excepting at the corners abreast the sides of said slats, where triangular blocks G are bolted to the frames to fill such spaces, and thereby avoid the use of extremely short slats F thereat. Said blocks E, I have termed the "slat spreading" and "securing" blocks of the guard. In the event of attaching a double set of slats F to the center guard-frame D, as shown in Fig. 1, L-shaped blocks E' are employed, bolted to the frame center rail, and each side block has bolted thereto two opposite pairs of slats, F, as represented; but in the event of but a single set of slats F being attached to said center guard-frame the former type of blocks E are employed, bolted to the center rail thereof, to which the slats F are bolted, as represented in Fig. 3.

In Figs. 1, 2, 3, and 4 I have represented the said slat spreading and securing blocks stationed so that said slats are bolted thereto



in pairs, a single bolt being placed at each block through holes of an adjoining pair of the slats and the block, thus leaving free spaces above the frame-rails between said blocks; but, however, if it is desired to more firmly confine the ends of said slats to render them less liable to split where their securing-bolts are placed, due to side pressure brought to bear against them, other similar blocks, one type of which I have represented at H in Figs. 5 and 6, may be bolted to the frame-rails at the intervening spaces between said formers spreading and slat securing blocks, and thus give support to both sides of each end part of each slat F. The guard-frames thus constructed are placed, the center or double frame-guard between the rails of the railway-track, and the single frame-guards one at each side of said track, with each end of said frames resting upon a cross-sill C, previously placed across the railway road-bed immediately under the rails A A and between the ties B, and detachably secured to said cross-sills by means of bolts J, which may be passed through any convenient portion of the guard-frames, but which I have shown as being passed up through the corner-blocks G, where the bolt-nuts will be easy of access. In thus placing the sills and guard-frames it will be noted that neither the said sills nor frames are attached to either the cross-ties or railway-rails, and by reason of the said sills being placed directly upon the road-bed the guard cannot sink or move endwise without the removal of said road-bed and ties, and cannot move sidewise by reason of the guard-frames rising above the flange of the railway-track rails. Hence it will be understood that the guard may be permanently placed and not attached to either the railway cross-ties or track rails.

In instances during the service of the guards when dirt or other substance has drifted or otherwise lodged about the guards and between the slats thereof the nuts of securing-bolts J may be removed and the guard-frames lifted from their sills, the said accumulated substance cleaned away, and the frames again placed, thereby rendering it convenient and inexpensive to maintain the guards in a clean serviceable condition; also in the event of a broken slat F its end-securing bolts may be easily and quickly removed and a new slat placed and secured by again inserting said bolts, and thus it may be readily understood in what manner the guards may be maintained in perfect serviceable condition; and, further, by the oblique arrangement of the guard-slats F with relation to the railway-

track rails, animals in attempting to cross will find a more difficult undertaking, owing to a more uncertain footing, than at a guard where the slats or bars are parallel or at right angle with the railway-track rails, whereas, owing to the form of man's foot, the oblique arrangement of the guard-slats presents a more favorable footing than either longitudinally-parallel or cross-guard slats or bars, for the reason that the oblique arrangement presents a footing for man's foot at any portion of the guard-surface. Hence no care need be exercised as to the exact place the foot is planted, while in the latter instances one must exercise great care to properly step on either a cross or a longitudinal slat or bar. Therefore it will be observed that the oblique arrangement of the guard-slats materially benefits the guard and produces new and favorable results over the usual longitudinal or cross arrangement of the slats or bars.

In service the usual guard-panels and fencing are placed in conjunction with the cattle-guard, as represented in Figs. 1 and 2, so that animals may not enter the inclosure along the sides of a railway-track without passing over the cattle-guard.

I have specified the guard as being made of wood; but, if so desired, it may be made of metal conforming to the same substantial form as described, or may be made partly of wood and partly of metal.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is as follows:

1. The herein-described cattle-guard consisting of the cross-sills; the frames removably attached to said sills; the slat spreading and securing blocks, and the triangular corner-blocks attached to said frames; and the obliquely-arranged guard-slats detachably attached to said spreading and securing blocks, substantially as set forth.

2. In the herein-described cattle-guard the frames D D', the slat spreading and securing blocks, and triangular corner-blocks attached to said frames; the obliquely-arranged guard-slats attached to said spreading and securing blocks, and the intervening slat-supporting blocks H attached to said frames, substantially as set forth.

In testimony whereof I have hereunto set my hand this 26th day of August, 1896, in presence of two subscribing witnesses.

FRANK C. BURNETT.

In presence of--

HARLOW F. WILSON,  
T. BURNETT.